24033/JG

14th July 2015

Mr Charles Béar,
83 Camden Mews,
London,
NW1 9BU

FLUID.STRUCTURES
ENGINEERS AND TECHNICAL DESIGNERS

Dear Mr Béar,

Ref. Proposed Basement at no.85 Camden Mews

As requested we have reviewed the documents received on14th June 2015 regarding the proposed basement details for no.85 Camden Mews and are writing further to our letters 10th October 2014 and 2nd April 2015.

We have reviewed the following documents (the most recent received on 14th June are highlighted in red):-

- Independent Review of basement Impact Assessment for planning application 2014/4726/P by LBH Wembley dated December 2014.
- Updated Independent Review of basement Impact Assessment for planning application 2014/4726/P by LBH Wembley dated March 2015.
- LBH Wembley further comments: - email dated 15th April 2015.
- Basement Impact Assessment ref J12115 by ST Consult dated January 2015.
- Ground Movement Report by GCG dated 5th March 2015.
- Assumed Construction Sequence by Cullinan Studios with associated drawing no.85_CM_BIA_05 dated 26th February 2015.
- Drawing nos. 85_CM_BIA_01 rev B, 85_CM_BIA_02 rev A, 85_CM_BIA_03 rev A, 85_CM_BIA_05, 85_CM_BIA_06 rev A and 85_CM_BIA_07.
- Structural Engineer's Construction Method Statement by Axiom Structures dated March 2015.
- Structural Engineer's Construction Method Statement by Axiom Structures dated April 2015 rev P2, FOR PLANNING
- Determination of Loading on New Basement Walls – calculations by CS Ltd dated March 2015.
- Outline Structural Calculations Retaining Wall – Boundary Line - 83/85 Camden Mews by Axiom Structures dated April 2015.

Many basements have been constructed in this area using safe and well established techniques such as underpinning. However, although it is fairly common to build basements in this part of North London, the current proposals for no. 85 need further development and must be restated on a legal basis without the following inconsistencies before they are satisfactory. The following amendments and further

information is required;-

1. Appendix A of the Basement Impact Assessment ref J12115 by ST Consult dated January 2015 shows details of trial pits that were carried out against the wall of no.83 to expose the foundations. The drawing of trial pit no.1 shows that there is a 220mm gap between the boundary walls of no.83 and no.85. It appears that the boundary of no.85 is at the face of the wall of no.85 and the boundary of no.83 is at the edge of the existing footings of the wall of no.83. Current proposals for no.85 involve building into the 220mm gap that exists between the properties and in addition cutting back the foundations of no.83. This is not acceptable and the legality of this proposal must be checked prior to this application proceeding any further.

2. The CMS by Axiom Structures is relatively detailed and has been updated to show how underpinning will be carried out adjacent to the foundations of no.83. However, the construction method statement stops at page 11 and appears to be incomplete as it only shows the first stage of underpinning and does not show how the remaining stages will be competed. So it is not clear how many stages will be required to complete the underpinning.

3. The section on page 11 of the CMS (which appears to be an extract from Drawing no. 85_CM_BIA_03 rev A) is also inconsistent with the underpinning method shown on page 9. The method on page 9 shows the underpinning constructed from the bottom up with the excavation stabilised by shaft shoring. However, the method shown on page 11 shows the start of a top-down method where a berm is left in place at the base of the first stage underpin while the first stage underpin is laterally propped. Also, this approach shown on page 11 of the CMS does not show how this first stage underpin has been installed without affecting the stability of No.83 foundations.

4. The drawing on Page 11 of the CMS also indicates that the existing footing is to be cut back but :-
    a. The drawing does not indicate the footing arrangement shown in the trial pit drawings and also appears to encroach into no.83's land.
    b. The drawing does not indicate how the foundation will be cut back (if this is not done carefully it may cause nuisance and damage to no.83).
    c. Cutting back the existing footing will reduce its' capacity and the calculations or CMS do not indicate how this will affect no.83 or how any effect will be mitigated.

5. There is a further inconsistency. Page 11 of the CMS shows the first stage underpin cast directly against the existing "cut-back" footing whereas the calculations show a compressible material between the existing "cut-back" footing and the proposed basement wall. This requires clarification.

6. The report by GCG was carried out based on assumed loads (as noted in item 4.1) for the existing and proposed buildings and the loads need to be verified/checked against the calculated loads and if necessary the Ground Movement Report updated. The distribution of

loads used in the model should also be based on the load distribution calculated for the new structure.

7. Prior to any work commencing a condition survey of the party wall will need to be carried out and movement monitored during construction.

8. Page 9 of the Basement Impact Assessment ref J12115 by ST Consult notes that the presence of groundwater should be allowed for in the design and that "equilibrium standing water levels at ground levels should be anticipated at around ground level for design purposes" but the level in the calculations has been taken at 600mm below ground level.

9. Page 9 of the Basement Impact Assessment ref J12115 by ST Consult also notes that "the presence of ground water should be allowed for in the design....and also for hydrostatic uplift of the floor slab". Calculations should be produced to show that there is an adequate factor of safety against hydrostatic uplift as hydrostatic uplift could potentially cause damage to adjoining buildings.

10. The Cullinan Studios drawings (85_CM_BIA_03 rev A & 85_CM_BIA_07) currently show Cordek Cellcore HS extending under the ground bearing area of the foundation which does not agree with the calculations. These drawings will need to be revised.

11. The construction method statement (CMS) by Axiom Structures is relatively detailed but does not describe how adjoining structures will be monitored to ensure that they are not being damaged during demolition and basement excavation and construction. It is important that this is addressed as part of the CMS.

12. Page 9 of the Basement Impact Assessment ref J12115 by ST Consult dated January 2015 notes that "in terms of the potential cumulative effects of other basements being constructed in the future in the immediate area, these should have little influence on groundwater levels". However, this conclusion is based on a limited investigation on a small area of one property in the mews and further investigation may be required to determine whether there would be adverse consequences if all the buildings on the Mews had basements of the scale of the one being sought here. There may also be the potential for water run-off problems which might result from a general loss of space previously filled by earth.

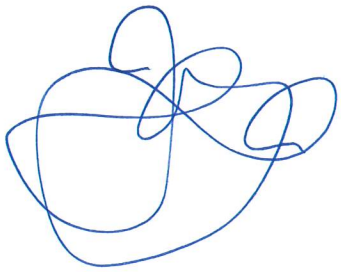
We are extremely concerned that the current proposal involves oversailing the existing foundations and cutting back the existing foundation of no.83 which may lead to unacceptable settlement and damage and in addition may not be legal as the gap that currently exists between the buildings will be infilled. It appears that the boundary of no.85 may be at the face of the wall of no.85 in which case the proposed building will encroach into no.83's demise.

In summary, the plans must be restated on a legal basis. Once the plans have been revised their validity can then be assessed.

I hope that the above is of assistance,

Yours sincerely

John Graham
Director Fluid Structures
BEng CEng MICE MIStructE MIEI



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